

Amendment and Response

Applicant: John C. Bruce et al.

Serial No.: 10/778,006

Filed: February 12, 2004

Docket No.: M190.150.101 / PD-272.00

Title: CONTACT TONOMETER USING MEMS TECHNOLOGY

IN THE CLAIMS

Please amend claims 1, 13, 25, 26, and 27 as follows:

- 1.(Currently Amended) A contact tonometer for sensing intra-ocular pressure (IOP) of an eye comprising:
 - (a) a single contact surface for making contact with a surface of said eye;
 - (b) a single micro-electro-mechanical system (MEMS) device connected to said contact surface wherein said MEMS device produces an electrical signal corresponding to the force applied by said contact surface to said surface of said eye when said surface of said eye is contacted by said contact surface;
 - (c) an electronics unit for receiving said electrical signal and converting said electrical signal to an IOP signal that is representative of the IOP of the eye;
 - (d) a display for receiving the IOP signal from the electronics unit and displaying information that is representative of the IOP of the eye; and
 - (e) a power source for supplying electrical power to said electronics unit and said display; wherein said contact tonometer is adapted such that only a single contact surface and a single MEMS device are required for sensing the IOP of the eye.
- 2.(Original) The contact tonometer of claim 1 further comprising an activation switch connected to said power source.
- 3.(Original) The contact tonometer of claim 1 further comprising a membrane disposed at the contact surface and positioned between the contact surface and the surface of the eye.
- 4.(Original) The contact tonometer of claim 3 wherein the membrane is non-reactive and bio-compatible with the surface of the eye.
- 5.(Original) The contact tonometer of claim 4 wherein the membrane is disposable.

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6.(Original) The contact tonometer of claim 1 wherein the power source is comprises of batteries.

7.(Original) The contact tonometer of claim 1 wherein the power source is comprised of common household electrical power provided through a power line.

8.(Original) The contact tonometer of claim 1 wherein the MEMS device and the electronics unit are formed together in an integrated circuit.

9.(Original) The contact tonometer of claim 1 wherein the MEMS device, the display and the electronics unit are formed together in an integrated circuit.

10.(Original) The contact tonometer of claim 1 wherein the electronics unit comprises a microprocessor.

11.(Original) The contact tonometer of claim 1 wherein the electronics unit comprises an application specific integrated circuit.

12.(Original) The contact tonometer of claim 1 wherein the MEMS device is in direct contact with the contact surface.

13.(Currently Amended) The contact tonometer of claim 1 further comprising a first housing member shaped to receive a portion of a human finger, the first housing member maintaining the contact surface and the MEMS device such that a user can bring the contact surface into contact with the eye without bringing a remainder of the contact tonometer into contact with the eye.

14.(Original) The contact tonometer of claim 13 further comprising an activation switch connected to said power source.

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15.(Original) The contact tonometer of claim 13 further comprising a membrane disposed at the contact surface and positioned between the contact surface and the surface of the eye.

16.(Original) The contact tonometer of claim 15 wherein the membrane is non-reactive and bio-compatible with the surface of the eye.

17.(Original) The contact tonometer of claim 16 wherein the membrane is disposable.

18.(Original) The contact tonometer of claim 13 wherein the power source is comprised of batteries.

19.(Original) The contact tonometer of claim 13 wherein the power source is comprised of common household electrical power provided through a power line.

20.(Original) The contact tonometer of claim 13 wherein the first housing member further contains the electronics unit.

21.(Original) The contact tonometer of claim 20 wherein the MEMS device and the electronics unit are formed together in an integrated circuit.

22.(Original) The contact tonometer of claim 13 wherein the electronics unit comprises a microprocessor.

23.(Original) The contact tonometer of claim 13 wherein the electronics unit comprises an application specific integrated circuit.

24.(Original) The contact tonometer of claim 13 wherein the MEMS device is in direct contact with the contact surface.

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25.(Currently Amended) The contact tonometer of claim 13 further comprising a second housing member coupled to said first housing member and shaped to receive a portion of a human hand, said second housing member housing the display.

26.(Currently Amended) A hand-held contact tonometer for sensing intra-ocular pressure (IOP) of an eye comprising:

- (a) a single contact surface for making contact with a surface of said eye;
- (b) a single micro-electro-mechanical system (MEMS) device connected to said contact surface wherein said MEMS device produces an electrical signal corresponding to the force applied by said contact surface to said surface of said eye when said surface of said eye is contacted by said contact surface;
- (c) an electronics unit for receiving said electrical signal and converting said electrical signal to an IOP signal that is representative of the IOP of the eye;
- (d) a display for receiving the IOP signal from the electronics unit and displaying information that is representative of the IOP of the eye; and
- (e) a power source for supplying electrical power to said electronics unit and said display;

Wherein said hand-held contact tonometer is adapted such that only a single contact surface and only a single MEMS device are required for sensing the IOP of the eye.

27.(Currently Amended) The hand-held contact tonometer of claim 26 further comprising a housing member capable of being hand-held for containing the contact surface, the MEMS device, the electronics unit and the display such that a user can bring the contact surface into contact with the eye without bringing a remainder of the contact tonometer into contact with the eye.

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28.(Original) The hand-held contact tonometer of claim 27 further comprising a membrane disposed at the contact surface and positioned between the contact surface and the surface of the eye.

29.(Original) The hand-held contact tonometer of claim 28 wherein the membrane is non-reactive and bio-compatible with the surface of the eye.

30.(Original) The hand-held contact tonometer of claim 29 wherein the membrane is disposable.

31.(Original) The hand-held contact tonometer of claim 27 wherein the power source is comprised of common household electrical power provided through a power line.

32.(Original) The hand-held contact tonometer of claim 27 wherein the MEMS device and the electronics unit are formed together in an integrated circuit.

33.(Original) The hand-held contact tonometer of claim 27 wherein the MEMS device, the display and the electronics unit are formed together in an integrated circuit.

34.(Original) The hand-held contact tonometer of claim 27 wherein the electronics unit comprises a microprocessor.

35.(Original) The hand-held contact tonometer of claim 27 wherein the electronics unit comprises an application specific integrated circuit.

36.(Original) The hand-held contact tonometer of claim 27 wherein the MEMS device is in direct contact with the contact surface.

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37.(Original) The hand-held contact tonometer of claim 27 wherein the power source is comprised of batteries.

38.(Original) The hand-held contact tonometer of claim 37 wherein the housing further contains the power source.